

CLAIMS

1. A fuel cell system haing:
a fuel cell provided with a fuel electrode, an oxidant electrode
and an electrolyte membrane sandwiched between them, and
a fuel supply system supplying fuel to said fuel electrode,
5 comprising;
a gas discharge unit provided with a filter at a part of a
member which excludes a reaction part of said fuel electrode and is
in contact with the fuel,
wherein said filter is constituted of a substrate and a carbon
10 dioxide permselective membrane provided on the substrate.
2. The fuel cell system of Claim 1,
wherein the fuel to be supplied is liquid fuel and said substrate
is a vapor-liquid separation membrane.
3. The fuel cell system of Claim 1 or 2,
wherein said carbon dioxide permselective membrane has a
thickness of 5 μm or less.
4. The fuel cell system of any one of Claims 1 to 3,
wherein said filter has a structure further provided with a
porous membrane on said carbon dioxide permselective membrane.
5. The fuel cell system of any one of Claims 1 to 4,
wherein said gas discharge unit is provided with a chamber

communicated with said fuel supply system through said filter; and
a catalyst is disposed in said chamber or on the wall surface
5 of the chamber.

6. The fuel cell system of any one of Claims 1 to 4,
wherein said gas discharge unit is provided with;
a first chamber that has an air port provided with a filter
and is communicated with said fuel supply system through said filter;
5 and
a second chamber that is communicated with said first chamber
and provided with a catalyst in the chamber or on the wall surface
of the chamber.